

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: HALO

Report Number: P642268

Luminaire Tested: ML5612LSWW97FS1E - 592H WW - 1200LM - 3500K

Issue Date: 2/17/2023

Test Information

Test Method: LM-79-2019
Report Number: P642268
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2212-866-130)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 2/17/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML5612LSWW97FS1E - 592H WW - 1200LM - 3500K
Description: ML56 RR, WW OPTIC, 5" WW INSERT WITH HAZE TRIM
Light Source: (1) HCL SELECTABLE LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 884.4 lumens
Efficiency: N/A
Efficacy: 53.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.25
Luminous Opening: Circular (Dia: 0.42' x H: 0')
CIE Type: Direct

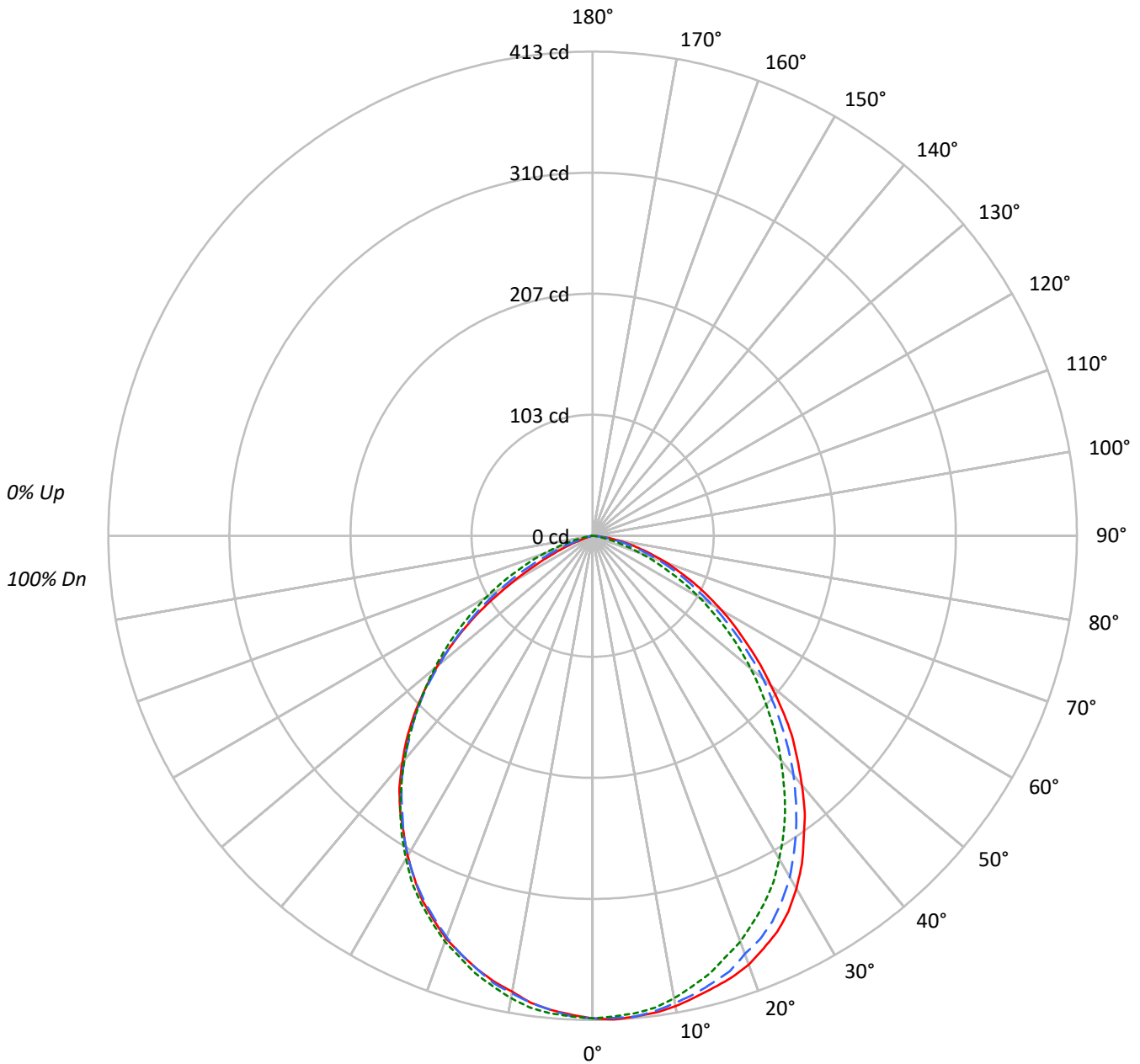
Input Watts (W): 16.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20					
RC	80					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0					
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100				
1	111	107	103	100	108	105	101	98	100	98	95	96	94	92	93	91	90	88				88				
2	102	95	89	84	100	93	88	83	90	85	81	87	83	79	84	80	78	76				76				
3	94	85	78	72	92	83	77	71	80	75	70	78	73	69	75	71	68	66				66				
4	87	76	68	62	85	75	67	62	72	66	61	70	65	60	68	63	59	57				57				
5	80	69	60	54	78	67	60	54	65	59	54	64	58	53	62	57	52	50				50				
6	74	62	54	48	73	61	54	48	60	53	47	58	52	47	56	51	47	45				45				
7	69	57	49	43	68	56	48	43	54	48	42	53	47	42	52	46	42	40				40				
8	65	52	44	39	63	51	44	39	50	43	38	49	43	38	48	42	38	36				36				
9	61	48	40	35	59	47	40	35	46	39	35	45	39	35	44	39	34	33				33				
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	31	30				30				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	32500	32500	32500	32500	32500
5°	32624	32624	32402	32180	32180
10°	32665	32440	32104	31767	31655
15°	32617	32273	31587	31244	31244
20°	32704	31889	30948	30595	30713
25°	32454	31600	30146	29780	29902
30°	31676	30655	29005	28750	28750
35°	30260	29181	27571	27301	27571
40°	28617	27463	25742	25742	26030
45°	26793	25398	23679	23679	23991
50°	24341	23309	21590	20902	21246
55°	22090	20933	19199	17864	17479
60°	20051	18504	16530	14320	12331
65°	17726	16157	13299	9900	7303
70°	15464	13525	9994	5470	2908
75°	12353	10645	6375	1708	854
80°	9501	6955	2546	636	636
85°	5072	3804	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 26793 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.8	4.4
10°-20°	109.5	12.4
20°-30°	161.6	18.3
30°-40°	183.0	20.7
40°-50°	169.0	19.1
50°-60°	126.3	14.3
60°-70°	69.8	7.9
70°-80°	23.5	2.7
80°-90°	3.0	0.3
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	309.9	35.0
0°-40°	492.9	55.7
0°-60°	788.2	89.1
0°-90°	884.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	884.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	412	412	412	412	412	
5°	412	412	409	406	406	39
15°	399	395	386	382	382	113
25°	373	363	346	342	343	171
35°	314	303	286	283	286	196
45°	240	228	212	212	215	184
55°	160	152	140	130	127	144
65°	95	86	71	53	39	94
75°	40	35	21	6	3	44
85°	6	4	0	0	0	8
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	411.7	411.7	411.7	411.7	411.7	411.7	411.7	411.7	411.7	411.7	411.7
2.5°	413.0	413.0	413.0	413.0	411.7	411.7	413.0	411.7	411.7	411.7	411.7
5°	411.7	411.7	411.7	411.7	411.7	411.7	411.7	411.7	411.7	411.7	411.7
7.5°	410.3	410.3	410.3	410.3	410.3	410.3	410.3	410.3	408.9	408.9	408.9
10°	407.5	407.5	407.5	407.5	407.5	407.5	407.5	406.1	406.1	406.1	404.7
12.5°	403.3	404.7	403.3	404.7	403.3	403.3	401.9	401.9	401.9	400.5	400.5
15°	399.1	399.1	399.1	399.1	399.1	397.7	397.7	396.3	396.3	396.3	394.9
17.5°	394.9	393.5	393.5	393.5	392.1	392.1	392.1	392.1	390.7	389.3	389.3
20°	389.3	387.9	387.9	387.9	386.5	386.5	385.1	385.1	382.3	382.3	379.6
22.5°	381.0	381.0	381.0	379.6	379.6	378.2	378.2	376.8	375.4	374.0	372.6
25°	372.6	372.6	371.2	371.2	369.8	369.8	369.8	367.0	365.6	364.2	362.8
27.5°	361.4	361.4	360.0	360.0	358.6	357.2	357.2	354.4	354.4	351.6	350.3
30°	347.5	347.5	347.5	344.7	344.7	344.7	343.3	341.9	339.1	337.7	336.3
32.5°	332.1	330.7	330.7	330.7	329.3	327.9	327.9	325.1	323.7	322.3	319.6
35°	314.0	314.0	314.0	314.0	312.6	311.2	311.2	308.4	307.0	304.2	302.8
37.5°	297.2	297.2	295.8	295.8	293.0	294.4	293.0	291.6	290.2	286.1	284.7
40°	277.7	277.7	277.7	276.3	274.9	274.9	273.5	272.1	269.3	267.9	266.5
42.5°	258.2	258.2	258.2	256.8	255.4	255.4	255.4	252.6	251.2	249.8	247.0
45°	240.0	238.6	238.6	237.2	237.2	235.8	234.4	233.0	231.6	230.2	227.5
47.5°	219.1	219.1	217.7	217.7	216.3	216.3	214.9	213.5	212.1	210.7	207.9
50°	198.2	199.5	199.5	198.2	198.2	196.8	195.4	195.4	194.0	192.6	189.8
52.5°	180.0	180.0	180.0	178.6	178.6	177.2	177.2	175.8	174.4	171.6	170.2
55°	160.5	161.9	160.5	160.5	160.5	159.1	159.1	157.7	156.3	153.5	152.1
57.5°	143.7	143.7	142.3	142.3	140.9	140.9	140.9	139.5	138.1	136.8	134.0
60°	127.0	125.6	125.6	125.6	124.2	124.2	124.2	121.4	120.0	118.6	117.2
62.5°	110.2	110.2	110.2	108.8	108.8	107.4	106.1	106.1	104.7	103.3	100.5
65°	94.9	94.9	93.5	93.5	93.5	92.1	92.1	90.7	89.3	87.9	86.5
67.5°	79.5	79.5	79.5	78.1	78.1	78.1	76.7	75.4	75.4	74.0	72.6
70°	67.0	65.6	65.6	65.6	64.2	64.2	64.2	62.8	61.4	60.0	58.6
72.5°	53.0	53.0	53.0	53.0	51.6	51.6	50.2	50.2	48.8	47.4	46.0
75°	40.5	40.5	40.5	40.5	39.1	39.1	39.1	37.7	37.7	36.3	34.9
77.5°	30.7	30.7	30.7	29.3	29.3	27.9	27.9	27.9	26.5	26.5	25.1
80°	20.9	20.9	19.5	19.5	19.5	19.5	19.5	18.1	16.7	16.7	15.3
82.5°	12.6	12.6	12.6	11.2	11.2	11.2	11.2	11.2	9.8	9.8	8.4
85°	5.6	5.6	5.6	5.6	5.6	5.6	4.2	4.2	4.2	4.2	4.2
87.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	411.7	411.7	411.7	411.7	411.7	411.7	411.7	411.7	411.7	411.7	411.7
2.5°	411.7	411.7	411.7	411.7	411.7	411.7	411.7	410.3	410.3	410.3	410.3
5°	410.3	410.3	410.3	410.3	410.3	408.9	410.3	408.9	408.9	408.9	408.9
7.5°	407.5	407.5	407.5	407.5	406.1	407.5	406.1	406.1	406.1	406.1	404.7
10°	404.7	403.3	403.3	403.3	403.3	401.9	401.9	400.5	400.5	400.5	399.1
12.5°	400.5	399.1	399.1	397.7	397.7	397.7	396.3	396.3	394.9	393.5	393.5
15°	393.5	393.5	392.1	390.7	390.7	389.3	389.3	387.9	387.9	386.5	385.1
17.5°	387.9	386.5	385.1	383.7	382.3	382.3	381.0	379.6	379.6	376.8	376.8
20°	378.2	376.8	375.4	374.0	374.0	374.0	371.2	371.2	369.8	368.4	367.0
22.5°	369.8	368.4	365.6	364.2	364.2	362.8	361.4	360.0	358.6	357.2	355.8
25°	360.0	358.6	355.8	354.4	353.0	351.6	350.3	348.9	347.5	346.1	344.7
27.5°	347.5	344.7	344.7	341.9	340.5	339.1	337.7	336.3	334.9	333.5	332.1
30°	333.5	332.1	329.3	326.5	325.1	325.1	322.3	320.9	320.9	318.2	316.8
32.5°	318.2	315.4	312.6	311.2	309.8	308.4	307.0	305.6	304.2	302.8	301.4
35°	301.4	297.2	295.8	293.0	293.0	291.6	290.2	287.5	287.5	286.1	283.3
37.5°	283.3	280.5	279.1	276.3	274.9	273.5	272.1	270.7	269.3	267.9	266.5
40°	263.7	260.9	259.6	258.2	256.8	255.4	254.0	252.6	251.2	249.8	248.4
42.5°	244.2	242.8	240.0	237.2	237.2	235.8	234.4	233.0	231.6	231.6	230.2
45°	224.7	223.3	220.5	219.1	217.7	217.7	214.9	214.9	213.5	212.1	212.1
47.5°	206.5	203.7	200.9	200.9	198.2	199.5	196.8	196.8	194.0	194.0	192.6
50°	187.0	185.6	182.8	181.4	181.4	180.0	178.6	178.6	177.2	175.8	174.4
52.5°	168.8	166.1	164.7	163.3	161.9	161.9	160.5	160.5	157.7	157.7	156.3
55°	150.7	149.3	146.5	145.1	145.1	145.1	142.3	140.9	140.9	139.5	138.1
57.5°	132.6	131.2	129.8	128.4	127.0	127.0	125.6	124.2	122.8	121.4	118.6
60°	115.8	114.4	113.0	111.6	110.2	110.2	108.8	107.4	106.1	104.7	103.3
62.5°	99.1	99.1	96.3	94.9	93.5	93.5	92.1	90.7	89.3	87.9	86.5
65°	85.1	83.7	80.9	79.5	79.5	79.5	76.7	75.4	74.0	71.2	69.8
67.5°	71.2	68.4	67.0	67.0	65.6	64.2	62.8	61.4	58.6	57.2	54.4
70°	57.2	55.8	54.4	53.0	51.6	50.2	48.8	47.4	44.7	43.3	41.9
72.5°	44.7	43.3	41.9	40.5	39.1	39.1	36.3	34.9	33.5	30.7	29.3
75°	33.5	32.1	30.7	29.3	27.9	26.5	26.5	23.7	22.3	20.9	18.1
77.5°	23.7	22.3	20.9	19.5	19.5	18.1	16.7	15.3	14.0	12.6	11.2
80°	15.3	14.0	12.6	12.6	11.2	11.2	9.8	8.4	7.0	5.6	5.6
82.5°	8.4	7.0	7.0	5.6	5.6	5.6	4.2	2.8	2.8	2.8	1.4
85°	2.8	2.8	2.8	1.4	1.4	1.4	1.4	1.4	1.4	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	411.7	411.7	411.7	411.7	411.7	411.7	411.7	411.7	411.7	411.7	411.7
2.5°	410.3	410.3	410.3	410.3	410.3	410.3	410.3	410.3	410.3	408.9	408.9
5°	407.5	407.5	407.5	407.5	407.5	407.5	406.1	406.1	406.1	406.1	406.1
7.5°	404.7	404.7	404.7	403.3	403.3	403.3	403.3	401.9	401.9	401.9	401.9
10°	399.1	399.1	399.1	397.7	397.7	397.7	397.7	397.7	396.3	396.3	396.3
12.5°	392.1	392.1	392.1	392.1	392.1	390.7	390.7	390.7	390.7	389.3	390.7
15°	385.1	385.1	383.7	383.7	383.7	382.3	382.3	382.3	382.3	382.3	382.3
17.5°	376.8	375.4	375.4	374.0	374.0	374.0	374.0	374.0	374.0	374.0	374.0
20°	367.0	365.6	365.6	365.6	365.6	364.2	364.2	362.8	364.2	364.2	364.2
22.5°	355.8	354.4	354.4	354.4	353.0	353.0	353.0	353.0	353.0	353.0	353.0
25°	344.7	343.3	341.9	341.9	341.9	340.5	340.5	341.9	341.9	341.9	341.9
27.5°	330.7	330.7	329.3	329.3	329.3	327.9	327.9	327.9	329.3	329.3	329.3
30°	315.4	315.4	315.4	315.4	314.0	314.0	315.4	314.0	315.4	314.0	315.4
32.5°	301.4	301.4	300.0	298.6	298.6	300.0	298.6	298.6	300.0	300.0	300.0
35°	283.3	283.3	283.3	283.3	283.3	283.3	283.3	283.3	283.3	284.7	286.1
37.5°	266.5	266.5	266.5	266.5	266.5	266.5	266.5	267.9	267.9	267.9	267.9
40°	248.4	248.4	248.4	248.4	248.4	248.4	248.4	248.4	249.8	249.8	251.2
42.5°	228.9	230.2	230.2	230.2	228.9	228.9	230.2	230.2	230.2	231.6	231.6
45°	210.7	210.7	210.7	210.7	212.1	210.7	210.7	210.7	212.1	212.1	212.1
47.5°	192.6	191.2	191.2	192.6	191.2	191.2	191.2	191.2	192.6	192.6	191.2
50°	174.4	173.0	173.0	173.0	171.6	171.6	173.0	170.2	170.2	170.2	171.6
52.5°	156.3	154.9	153.5	153.5	153.5	152.1	150.7	150.7	150.7	149.3	149.3
55°	136.8	135.4	134.0	134.0	134.0	132.6	132.6	129.8	129.8	128.4	128.4
57.5°	118.6	117.2	115.8	115.8	114.4	113.0	113.0	110.2	110.2	108.8	106.1
60°	100.5	99.1	97.7	97.7	97.7	94.9	93.5	90.7	90.7	87.9	86.5
62.5°	83.7	82.3	80.9	79.5	79.5	76.7	75.4	72.6	71.2	69.8	67.0
65°	68.4	65.6	64.2	62.8	62.8	60.0	58.6	55.8	53.0	51.6	48.8
67.5°	53.0	51.6	48.8	47.4	47.4	44.7	41.9	40.5	37.7	34.9	33.5
70°	39.1	37.7	34.9	33.5	32.1	30.7	27.9	26.5	23.7	22.3	19.5
72.5°	26.5	25.1	22.3	22.3	20.9	18.1	16.7	15.3	12.6	11.2	9.8
75°	16.7	15.3	14.0	12.6	11.2	9.8	8.4	7.0	5.6	4.2	4.2
77.5°	9.8	8.4	7.0	5.6	5.6	4.2	2.8	2.8	2.8	1.4	1.4
80°	4.2	2.8	2.8	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
82.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	0.0	0.0	1.4	1.4
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P642268

CATALOG NUMBER: ML5612LSWW97FS1E - 592H WW - 1200LM - 3500K

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	411.7	411.7	411.7	411.7	411.7	411.7	411.7	411.7
2.5°	410.3	408.9	410.3	410.3	408.9	408.9	408.9	408.9
5°	406.1	406.1	406.1	406.1	406.1	406.1	406.1	406.1
7.5°	403.3	401.9	401.9	401.9	401.9	401.9	401.9	401.9
10°	396.3	396.3	396.3	396.3	396.3	396.3	396.3	394.9
12.5°	389.3	389.3	389.3	389.3	389.3	389.3	389.3	389.3
15°	382.3	382.3	382.3	382.3	382.3	382.3	382.3	382.3
17.5°	374.0	374.0	374.0	374.0	374.0	372.6	374.0	374.0
20°	364.2	364.2	364.2	364.2	364.2	364.2	364.2	365.6
22.5°	353.0	353.0	353.0	353.0	353.0	353.0	353.0	354.4
25°	341.9	341.9	341.9	341.9	341.9	341.9	341.9	343.3
27.5°	329.3	329.3	329.3	329.3	329.3	329.3	329.3	329.3
30°	315.4	315.4	316.8	315.4	315.4	315.4	316.8	315.4
32.5°	301.4	301.4	301.4	301.4	301.4	301.4	301.4	300.0
35°	286.1	284.7	286.1	286.1	286.1	286.1	286.1	286.1
37.5°	269.3	269.3	269.3	269.3	269.3	269.3	270.7	270.7
40°	252.6	251.2	251.2	252.6	252.6	252.6	251.2	252.6
42.5°	231.6	233.0	233.0	233.0	234.4	233.0	234.4	234.4
45°	212.1	213.5	213.5	213.5	213.5	213.5	214.9	214.9
47.5°	192.6	192.6	192.6	192.6	194.0	194.0	194.0	194.0
50°	171.6	171.6	171.6	171.6	173.0	171.6	173.0	173.0
52.5°	149.3	149.3	149.3	149.3	149.3	149.3	150.7	149.3
55°	127.0	127.0	127.0	127.0	125.6	125.6	125.6	127.0
57.5°	106.1	104.7	103.3	104.7	101.9	101.9	101.9	101.9
60°	83.7	82.3	82.3	80.9	79.5	78.1	79.5	78.1
62.5°	64.2	62.8	62.8	60.0	58.6	58.6	57.2	57.2
65°	47.4	44.7	43.3	43.3	41.9	40.5	39.1	39.1
67.5°	30.7	29.3	27.9	27.9	26.5	25.1	25.1	23.7
70°	18.1	16.7	15.3	16.7	14.0	12.6	12.6	12.6
72.5°	8.4	7.0	7.0	7.0	5.6	5.6	5.6	5.6
75°	4.2	2.8	2.8	2.8	2.8	2.8	2.8	2.8
77.5°	1.4	1.4	2.8	1.4	1.4	1.4	1.4	1.4
80°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
82.5°	1.4	0.0	0.0	0.0	1.4	1.4	0.0	1.4
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



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— 0°-180° - - 45°-225° - - - - 90°-270°

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(END OF REPORT)